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PATENT  
Docket No. SJO920030045US1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant: Brian R. McClain et al.

Serial No.: 10/776,943

Filed: February 11, 2004

For: **APPARATUS AND SYSTEM FOR VERTICALLY  
STORING COMPUTING DEVICES**

Group Art  
Unit: 3692

Examiner: Jared W. Newton

REPLY BRIEF

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Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Examiner:

The USPTO received Appellant's timely Appeal Brief on February 7, 2007, which was filed in response to the Notice of Appeal filed on November 7, 2006, which was filed in response to the Final Office Action mailed August 7, 2006.

This Reply Brief is being filed under the provisions of 37 C.F.R. § 41.41 and in response to the Examiner's Answer mailed May 14, 2007. Appellant continues to appeal the rejection of pending Claims 1, 5, 10, 11, and 21-23.

## **1. REAL PARTY IN INTEREST**

The Examiner's answer agrees with the recitation for this section in the Appeal Brief filed February 7, 2007.

## **2. RELATED APPEALS AND INTERFERENCES**

The Examiner's answer agrees with the recitation for this section in the Appeal Brief filed February 7, 2007.

## **3. STATUS OF CLAIMS**

The Examiner's answer agrees with the recitation for this section in the Appeal Brief filed February 7, 2007. The Examiner's Answer mailed May 14, 2007 maintains substantially the same grounds of rejection for Claims 1, 4-6, 8, 10, 11, and 13-23.

## **4. STATUS OF AMENDMENTS**

The Examiner's answer agrees with the recitation for this section in the Appeal Brief filed February 7, 2007.

## **5. SUMMARY OF CLAIMED SUBJECT MATTER**

The Examiner's answer agrees with the recitation for this section in the Appeal Brief filed February 7, 2007.

## **6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

The Examiner's answer agrees with the recitation for this section in the Appeal Brief filed February 7, 2007. The Examiner's Answer mailed May 14, 2007 maintains substantially the same grounds of rejection for Claims 1, 4-6, 8, 10, 11, and 13-23.

## 7. ARGUMENT

### **I. The rejection of Claims 1, 5, 10, 11, and 22 under 35 U.S.C. §102(b) as obvious is improper because Harbin fails to teach each element of the recited claims.**

Summary of the Examiner's Answer in relation to this argument.

[001] The Examiner contends that Harbin does disclose a mounting mechanism that allows an upper support and a lower support to transition between an access position and a vertical storage position. The Examiner maintains this contention on the basis of a very broad and unreasonable interpretation of Harbin. The Examiner suggests that the term "vertical storage position" "is met by Harbin's teaching of the device being vertically cleared out of a work area while a user is performing other tasks." Examiner's Answer page 8.

Response.

[002] Appellants disagree and respectfully reaffirm the arguments raised against the rejection of Claims 1, 5, 10, 11, and 22 under 35 USC §102(b) set forth in the Appeal Brief filed February 7, 2007. Appellants will discuss Claim 1 with the understanding that arguments in support of Claim 1 are equally applicable to Claims 5, 10, 11, and 22. Appellants submit that the Examiner's broad interpretation of Claim 1 fails to give proper weight to each term and the modifiers of each term.

[003] Harbin is primarily concerned with providing increased vertical travel. See Harbin Col. 1, ll. 32-33, 62-63, Col. 2 ll. 3-4, 13-14. Appellants note that Harbin teaches a change in vertical height of the computer workstation in an access position, not that the lower support and upper support assuming a vertical position. Harbin, fig. 1, ref. 74. Harbin fails to teach that the lower support and upper support are the structures that transition from an access position to a vertical storage position (i.e. a vertical orientation). In Harbin, the lower support and upper support remain in an access position. While Harbin teaches a horizontal displacement of the computer workstation, the computer workstation is always in the access position. For example, a user in a seated position may move the workstation vertically, however the workstation may still be in an access position for a standing user. Such is not the case with the

vertical **storage** position of Claim 1. See Fig. 3A. A storage position is one which does not allow access to the computer workstation. Harbin does not teach transitioning between an access position and a vertical storage position nor does Harbin disclose a vertical storage position.

Summary of the Examiner's Answer in relation to this argument.

[004] The Examiner contends that Harbin does disclose vertical storage position outside of a computer equipment rack and that the vertical storage position places the upper support and lower support behind a face of the computer equipment rack.

Response.

[005] Appellants respectfully disagree. Again, the Examiner uses a broad unreasonable interpretation of Claim 1 and fails to give proper weight to each term and the modifiers of each term. In particular, the Examiner seems to ignore the limitation that "the upper support and lower support [are] behind a face of the computer equipment rack" focusing instead on the term "computer equipment rack."

[006] Presuming that the open track of Harbin teaches the "computer equipment rack" as asserted by the Examiner, Appellants suggest that it is impossible in Harbin to identify a storage position for the workstation in Harbin such that an upper support and lower support (16 and 26 as asserted by the Examiner) are behind a face of the open rack. The face of the open rack is the open part that includes the cabling 14. The swivel bracket 32 and dual parallelogram arm assembly 28 prevents the platform 16 and keyboard tray 26 from pivoting such that the platform 16 and keyboard tray 26 are behind the face. Consequently, Harbin fails to teach **"the vertical storage position is outside of the computer equipment rack and places the upper support and lower support behind a face of the computer equipment rack."** As recited in Claim 1.

Summary of the Examiner's Answer in relation to this argument.

[007] The Examiner further contends that Harbin's disclosure of a column attached to the tray and supporting a CPU teaches the "computer equipment rack" limitation of Claim 1 based on a very broad interpretation of the term "rack."

Response.

[008] Appellants respectfully reaffirm the arguments raised against the rejection of Claims 1, 5, 10, 11, and 22 under 35 USC §102(b) set forth in the Appeal Brief filed February 7, 2007. Appellants submit that the Examiner's broad interpretation of the term "computer equipment rack" is unreasonable. The term "rack" means "framework for holding object." Search "define:rack" on [www.google.com](http://www.google.com). However such a definition is so unreasonably broad that interpreting the claim based on this term alone is impossible. Such a definition reads on a regular "table." Appellants submit that the term "rack" must be interpreted along with its adjectives "computer" and "equipment." Such an interpretation indicates that Harbin fails to teach a "computer equipment rack."

[009] Those in the art are very familiar with the term "computer equipment rack" and its meaning. Computer equipment racks have been used in the industry for about twenty years, ever since the advent of computer servers that operate in a common location such as a server room. In fact, the device has been used for so long that the industry has adopted its own measuring system to describe the vertical space occupied by components installed in a computer equipment rack. Felcman refers to a "rack structure" in which vertical space is measure in "U" units. Felcman Col. 1, ll. 25-45. Clearly, Felcman recognizes the difference between a "rack structure" and a "open track" as used in Harbin.

[010] Appellants submit that to interpret the "open track" of Harbin as teaching the "computer equipment rack" of the claimed invention ignores the level of education and sophistication of those of skill in the art. Those in this art are generally highly technical people with college degrees and logical minds trained to understand complex and abstract concepts including engineers and scientists. Clearly, those in the art appreciate a difference between an "open track" and a "computer equipment rack." Appellants respectfully request that the

Examiner give those in the art and field of computer equipment and support racks their proper respect and credit by acknowledging that an “open track” and a “computer equipment rack” are fundamentally different devices.

Summary of the Examiner’s Answer in relation to this argument.

[011] Next the Examiner submits that the column of Harbin teaches “computer equipment rack [is] configured to mount equipment with a height that is an integer multiple of 44.45 millimeters.”

Response.

[012] Appellants submit that the Examiner is not at liberty to simply read out of Claim 1 a limitation that does not correlate to the prior art references used in a rejection. The Examiner suggests that limitations in Claim 1 that further define and clarify the term “computer equipment rack” “[are] not a required part of the claimed invention.” Examiner’s Answer page 9. Appellants strongly disagree. Every limitation that is added by Appellant to a claim is a required part by virtual of the limitation being in the claim. Those charged with infringement of an allowed claim must practice every limitation, so each limitation of the claim should be given proper weight during examination in view of the art of record. This particular limitation adds the limitation that the “computer equipment rack” supports equipment having a “U” measure for vertical space.

**II. The rejection of Claim 21 under 35 U.S.C. §103(a) as obvious in view of Harbin is improper because Harbin fails to teach each element of the recited claims.**

Summary of the Examiner’s Answer in relation to this argument.

[013] The Examiner contends that Harbin does disclose a vertical storage position and that earlier arguments support the continued rejection of Claim 21.

Response.

[014] Appellants respectfully reaffirm the arguments raised against the rejection of Claim 21 under 35 USC §103(a) set forth in the Appeal Brief filed February 7, 2007. Appellants submit that the Examiner's broad interpretation of "vertical storage position" is improper as explained above. Harbin teaches "...motorizing the travel of the of the carriage 24 and/or the dual parallelogram arm assembly 28..." Harbin, col. 8, lines 36-38. However, Harbin does not teach motorizing the transition between an access position and a vertical storage position.

[015] Appellants submit that Claim 21 includes a patentable distinction and invite the Board to apply the proper scrutiny and interpretation to Claim 21 in view of the arguments presented, namely:

"[c]laims are not to be read in a vacuum, and limitations therein are to be interpreted in light of the specification in giving them their 'broadest reasonable interpretation'." *In re Marosi*, 710 F.2d 799, 802 218 USPQ 289 292 (Fed. Cir. 1983). Second, "[t]he broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach. *In re Cortright*, 165 F.3d 1353, 1359, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999). MPEP §2111. And third, "[t]he words of a claim must be given their "plain meaning" unless they are defined in the specification. "[P]lain meaning" refers to the meaning given to the term by those of ordinary skill in the art" MPEP §2111.01.

Appellants submit that under the proper interpretation Claim 21 is patentably distinct from the art of record.

**III. The rejection of Claims 1, 5, 22, and 23 under 35 U.S.C. §103(a) as obvious in view of Felcman and Oddsen is improper because Felcman and Oddsen fail to teach each element of Claims 1, 5, 22, and 23 and there is no suggestion to combine Felcman and Oddsen.**

Summary of the Examiner's Answer in relation to this argument

[016] The Examiner agrees that Felcman discloses a horizontal storage position and a horizontal access position. The Examiner contends that Oddsen discloses access and storage positions at Col. 1, ll. 58-61, reading the limitation "vertical storage position" broadly. The Examiner suggests that there is a suggestion or motivation to combine Felcman and Oddsen. The

Examiner addresses Appellants teaching away argument with respect to Oddsen by suggesting that Felcman and Oddsen are analogous art. The Examiner suggests that Oddsen teaches a motivation to conserve space in general which would lead one in the art to combine Felcman and Oddsen.

## Response

[017] Appellants respectfully reaffirm the arguments raised against the rejection of Claims 1, 5, 22, and 23 under 35 USC §103(a) set forth in the Appeal Brief filed February 7, 2007. Appellants submit that the Examiner's broad interpretation of Claim 1 fails to give proper weight to each term and the modifiers of each term.

[018] The factual inquiries for determining obviousness are summarized as follows:

- 1) Determine the scope and content of the prior art.
- 2) Determine the differences between the prior art and the claims at issue.
- 3) Resolve the level of ordinary skill in the pertinent art.
- 4) Consider objective evidence present in the application indicative of obviousness or nonobviousness. *Graham v. John Deere Co.*, 383 US 1, 148 USPQ 459 (1966).

[019] Appellants assert that the rejection fails to establish a *prima facie* case of obviousness, first because not all elements of the amended claims are taught or suggested in the art of record, and second, because the factual inquiry of *Graham* weighs in favor of nonobviousness.

## SCOPE AND CONTENT OF THE ART

[020] Scope and content of the art has been explained in previous responses on the record and is summarized here for convenience. Felcman is primarily concerned with conserving vertical U space in a rack structure. Felcman Col. 1, ll. 55-64. Oddsen is primarily concerned with "a display arm that can be raised and lowered with minimal exertion while supporting an electronic device." Oddsen Col. 1, ll. 57-59.



## DIFFERENCES BETWEEN THE PRIOR ART AND THE CLAIMS AT ISSUE

[021] Appellants submit that significant differences exist in the claimed elements and the teachings of the prior art. Felcman teaches a horizontal access position and a horizontal storage position *within* the computer equipment rack. Felcman, Figs. 5 and 6. Felcman fails to teach a vertical storage position. Appellants note that Oddsen teaches a change in vertical level of the computer workstation in an access position, not that the lower support and upper support assume a vertical position. Oddsen fails to teach that a lower support and an upper support are the structures that transition from an access position to a vertical storage position (i.e. a vertical orientation). In Oddsen, a lower support and an upper support remain in an access position.

## LEVEL OF ORDINARY SKILL

[022] Several considerations are necessary to determine the level of one having ordinary skill in the art. “Factors that may be considered in determining the level of ordinary skill in the art include (1) the educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) education level of active workers in the field.” *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 696, 218 USPQ 865, 868 (Fed. Cir. 1983), cert. denied, 464 U.S. 1043 (1984); see also, MPEP § 2141.03.

[023] Here, the art is computer equipment and structures for supporting the same.. The education level of the inventor is at a college degree in either mechanical engineering, computer science, or the like. The types of problems deal with supporting infrequently accessed computer equipment within limited space constraints. There are no adequate prior art solutions to the problem of access to a computer workstation on an infrequent basis that provides maximum vertical storage space (“U” space) in a computer equipment rack. The speed at which innovations are developed is routine as businesses improve designs over normal design cycles. The technology itself is mechanical and structural and requires those in the art to possess mechanical engineering skills as well as an understanding of needs of the computer industry. Finally, the education level of workers in the field is at least a college degree or higher in the field of computer science.

## OBJECTIVE EVIDENCE OF NON-OBVIOUSNESS

[024] Appellants respectfully assert that the invention presented in the pending claims is sufficiently distinct from the prior art taught in Felcman and Oddsen to constitute a nonobvious improvement. As the Examiner has noted, Felcman fails to teach a vertical storage position. While the Examiner relies on Oddsen for this element, Appellants disagree.

[025] The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art. *In re Keler*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). As noted above, Felcman does not disclose transitioning a lower support and an upper support to a vertical storage position. As such, one of ordinary skill in the art would have to determine that the apparatus disclosed in Felcman, with modifications, could be used in the manner recited in the claims.

[026] Oddsen deals with a support device that facilitates vertical movement of a workstation between a lower access position and an elevated storage position. However, Oddsen notably fails to teach transitioning or pivoting an upper support or a lower support from an access position (generally horizontal) to a vertical orientation, a vertical storage position.

[027] Why would one of skill in the art with knowledge of Felcman and Oddsen decide to enable a component housing 44 of Felcman to move from a horizontal orientation to a vertical orientation within the rack structure? To do so would aggravate the problem Felcman seeks to solve, conservation of vertical “U” storage space. Therefore, one of skill in the art would find no reason to gather teachings or ideas from Oddsen. Doing so is counter intuitive to Felcman.

[028] Furthermore, why would one of skill in the art, who is college educated, consider a vertical display arm 100 that provides for lengthy vertical travel (a few feet or more, in accordance with Oddsen’s objectives) within the tight space restrictions of a rack structure? Applicants submit that one of skill in the art would have been deterred from referring to Oddsen for teachings and ideas because Oddsen deals with vertical travel of a display arm and not compact transitioning between a substantially horizontal access position and a vertical storage position for the upper support and lower support recited in Claim 1. Appellants submit that the present invention’s use of a mounting mechanism that permits support of a computing device in one of

either an access position or a vertical storage position outside the computer equipment rack represents a nonobvious improvement over the state of the art. Appellants submit that these modifications represent a nonobvious improvement over the art. Therefore, Appellants submit that the evidence weighs in favor of nonobviousness.

#### Summary of the Examiner's Answer in relation to this argument

[029] The Examiner suggests that Oddsen "presents an improvement for racks and other supporting surfaces that have only internal storage." The Examiner suggests that "the attachment of mounting assembly of Oddsen would not render the rack of Felcman inoperable" and instead would be a complementary improvement.

#### Response

[030] Appellants respectfully disagree. Appellants submit that such a combination is impractical in a computer equipment rack where vertical storage space is a premium and must be utilized as efficiently as possible. The Examiner suggests that the mounting assembly of Oddsen may be attached to the top of a computer equipment rack. Examiner's Answer page 13.

[031] While such a combination of Felcman and Oddsen is possible, the combination seems to ignore the further limitation of Claim 1 that defines the vertical storage position. Specifically, Claim 1 recites "the vertical storage position is outside of the computer equipment rack and places the upper support and lower support behind a face of the computer equipment rack."

[032] In contrast, the mounting assembly, keyboard, and monitor of Oddsen would be in front of the face of the computer equipment rack. Consequently, the user is blocked from viewing the indicator lights of the computer equipment installed in the rack that the user is servicing. One solution to this problem is to put the mounting assembly on the side of a computer equipment rack, however the user is still then not facing the face of the computer equipment rack and is thus unable to easily monitor the status lights of the computer equipment in the rack is behind the display, keyboard, and mounting assembly.

[033] Consequently, such combination is impractical and uncomplimentary. Instead of providing motivation for such a combination these differences and limitations of the art would

deter one of skill in the art from referencing Felcman and Oddsen together to arrive at the claimed invention.

**IV. The rejection of Claim 1 under 35 U.S.C. §102(b) as anticipated by Harbin is improper where the Examiner has not responded to the Appellants arguments.**

Summary of the Examiner arguments.

[034] The Examiner acknowledges the mistake in the Advisory Action and indicates that the arguments presented in the response filed October 10, 2006 were considered and deemed to be insufficient.

Response.

[035] Appellants appreciate this acknowledgment.

**SUMMARY**

In view of the foregoing, Appellants respectfully assert that each of the claims on appeal has been improperly rejected because the rejections under 35 U.S.C. §102(b) and §103(a) are improper. Therefore, Appellants respectfully request reversal of the Examiner's rejections under 35 U.S.C. §102(b) and §103(a), and urges that pending claims 1, 5, 10, 11, 22, and 23 are ready for prompt allowance. Appellants appeal to the Board's objective and reasoned decision on this matter.

Respectfully submitted,

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## **8. CLAIMS APPENDIX**

The Examiner's answer agrees with the recitation for this section in the Appeal Brief filed February 7, 2007.

## **9. EVIDENCE APPENDIX**

The Examiner's Answer relies upon U.S. Patent 6,286,794 to Harbin, U.S. Patent 6,945,412 to Felcman and U.S. Patent 6,783,105 to Oddsen.

## **10. RELATED PROCEEDINGS APPENDIX**

There is no material to be included in the Related Proceedings Appendix.